I CLAIM:

1. A method for low dark current imaging, comprising:

forming a first well of a first polarity type;

forming a first oxide layer on the surface of the first well such that the first oxide layer comprises an opening through which a portion of the first well is exposed; and

forming a diode electrode structure of a second polarity type that is opposite the first polarity type wherein the diode electrode structure is formed within an area that is within the exposed portion of the first well such that an intervening portion of the exposed portion of the first well exists between the diode electrode structure and the first oxide layer.

2. The method of claim 1, wherein the diode electrode structure is formed using an arsenic implant process.

3. The method of claim 1, wherein the intervening portion of the first well is formed as a continuous area surrounding the diode electrode structure.

4. The method of claim 1, wherein the diode electrode structure is formed such that a substantial portion of a depletion region that results when a bias voltage is applied to the diode electrode structure does not extend to the first oxide layer.

5. The method of claim 1, wherein the first well is formed on an epitaxial layer.

6. The method of claim 1, wherein the oxide layer is formed using a local oxidation of silicon process.

7. The method of claim 1, wherein the oxide layer is formed using a shallow trench isolation process.

8. An imaging pixel, comprising:

a first well of a first polarity type;

a first oxide layer that is formed on the surface of the first well such that the first oxide layer comprises an opening through which a portion of the first well is exposed; and

a diode electrode structure of a second polarity type that is opposite the first polarity type wherein the diode electrode structure is formed within an area that is within the exposed portion of the first well such that an intervening portion of the exposed portion of the first well exists between the diode electrode structure and the first oxide layer.

9. The pixel of claim 8, wherein the diode electrode structure is formed using an arsenic implant process.

10. The pixel of claim 8, wherein the intervening portion of the first well forms a continuous area surrounding the diode electrode structure.

11. The pixel of claim 8, wherein the diode electrode structure is formed such that a substantial portion of a depletion region that results when a bias voltage is applied to the diode electrode structure does not extend to the first oxide layer.

12. The pixel of claim 8, further comprising a reset transistor that is configured to set an initial voltage across the first well and the diode electrode structure.

13. The pixel of claim 8, wherein the oxide layer is formed using a local oxidation of silicon process.

14. The pixel of claim 8, wherein the oxide layer is formed using a shallow trench isolation process.

15. An imaging pixel, comprising:

a first well means of a first polarity type;

an insulation means that is formed on the surface of the first well means such that the insulation means comprises an opening through which a portion of the first well means is exposed; and

a diode electrode means of a second polarity type that is opposite the first polarity type wherein the diode electrode means is formed within an area that is within the exposed portion of the first well means such that an intervening portion of the exposed portion of the first well means exists between the diode electrode means and the insulation means.

16. The pixel of claim 15, wherein the intervening portion of the first well means forms a continuous area surrounding the diode electrode means.

17. The pixel of claim 16, further comprising terminals that are configured to apply a bias voltage across the first well means and the diode electrode means.

18. The pixel of claim 15, wherein the diode electrode means is formed such that a substantial portion of a depletion region that results when a bias voltage is applied to the diode electrode means does not extend to the insulation means.